

What Is Claimed Is:

1. A photocurable composition comprising:

- (a) a 2-cyanoacrylate component,
- (b) a photoinitiated radical generating component, and
- (c) a photoinitiator component.

2. The composition according to Claim 1, wherein the cyanoacrylate component includes a cyanoacrylate monomer represented by  $H_2C=C(CN)-COOR$ , wherein R is selected from the group consisting of  $C_{1-15}$  alkyl, alkoxyalkyl, cycloalkyl, alkenyl, aralkyl, aryl, allyl and haloalkyl groups.

3. The composition according to Claim 2, wherein the cyanoacrylate monomer is selected from the group consisting of methyl cyanoacrylates, ethyl-2-cyanoacrylate, propyl-2-cyanoacrylates, butyl-2-cyanoacrylates, octyl-2-cyanoacrylates, allyl cyanoacrylate,  $\beta$ -methoxyethyl cyanoacrylates, and combinations thereof.

4. The composition according to Claim 2, wherein the cyanoacrylate monomer is ethyl-2-cyanoacrylate.

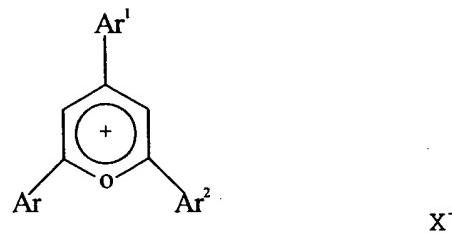
5. The composition according to Claim 1, wherein the photoinitiated radical generating component includes materials selected from the group consisting of  $\alpha$ -haloacetophenones, azo compounds, aromatic carbonyl compounds, peroxides, hydroperoxides, peresters, azoisobutyronitrile, and combinations thereof.

6. The composition according to Claim 1, wherein the photoinitiated radical generating component includes materials selected from the group consisting of 1,1'-azo-bis(cyclohexanecarbonitrile), 4,4'-azo-bis(4-cyanovaleric acid), 1,1'-(azodicarbonyl)-dipiperidine, 1,1-bis(t-butylperoxy)cyclohexane, 2,5-bis(t-butylperoxy)-2,4-

dimethylhexane, bis[1-(t-butylperoxy)-1-methyl-ethyl]benzene, benzoin methylether, cumylhydroperoxide, dibenzoylperoxide, di-t-butylperoxide, 2,2-diethoxyacetophenone, 2,2-dimethoxy-phenylacetophenone, dicumylperoxide, diphenyl(2,4,6-trimethylbenzoyl)-phosphine oxide, desylchloride, lauroylperoxide, t-butylperoxybenzoate, t-butylhydroperoxide and combinations thereof.

7. The composition according to Claim 1, wherein the photoinitiated radical generating component includes materials 1-hydroxycyclohexyl phenyl ketone, 2-methyl-1-[4-(methylthio)phenyl]-2-morpholino propan-1-one, benzophenone, 2-benzyl-2-N,N'-dimethylamino-1-(4-morpholinophenyl)-1-butanone, 2,2-dimethoxy-2-phenyl acetophenone, bis(2,6-dimethoxybenzoyl-2,4-, trimethyl pentyl phosphine oxide, 2-hydroxy-2-methyl-1-phenyl-propan-1-one, 2-hydroxy-2-methyl-1-phenyl-1-propane, 2,4,6-trimethylbenzoyldiphenyl-phosphine oxide, 2-hydroxy 2-methyl-1-phenyl-propan-1-one, and combinations thereof.

8. The composition according to Claim 1, wherein the photoinitiator component is selected from the group consisting of within the following structure:



wherein each of Ar, Ar<sup>1</sup> and Ar<sup>2</sup> are aryl groups, with or without substitution, and X<sup>-</sup> is an anion.

9. The composition according to Claim 1, wherein the photoinitiator component is selected from the group consisting of 2,4,6-triphenylpyrylium tetrafluoroborate, 1,4-phenylene-4,4'-bis-(2,6-diphenyl-4-pyrylium

tetrafluoroborate), 2,4-diphenylnaphto-(1,2-B) pyrylium tetrafluoroborate, 2,4,6-triphenyl-pyrylium trifluoromethane sulfonate, 2,6-diphenyl-4(p-tolyl)-pyrylium tetrafluoroborate and combinations thereof.

10. The composition according to Claim 1, further comprising (d) a non-cyanoacrylate radical curable component.

11. The composition according to Claim 8, wherein the non-cyanoacrylate radical curable component is a member selected from the group consisting of styrene and derivatives thereof, (meth)acrylates, and combinations thereof.

12. The composition according to any one of Claims 1-11, wherein radiation in the electromagnetic spectrums appropriate for photocuring the composition is selected from the group consisting of ultraviolet light, visible light, electron beam, x-rays, infrared radiation and combinations thereof.

13. The composition according to any one of Claims 1-11, further comprising a member selected from the group consisting of viscosity-modifying agents, rubber toughening agents, thixotropy conferring agents, thermal-stabilizing agents, and combinations thereof.

14. The composition according to any one of Claims 1-11, wherein the composition is useful as an adhesive, a sealant or a coating.

15. A method of polymerizing a photocurable composition, said method comprising the steps of:

(a) providing an amount of the photocurable composition according to any one of Claims 1-14; and

(b) subjecting the composition to radiation in the electromagnetic spectrum effective to cure the composition.

16. The composition according to any one of Claims 1-14 in a two-part formulation.

17. The composition according to any one of Claims 1-14 in a one-part formulation.

18. A composition comprising a reaction product formed from the composition according to any one of Claims 1-14 after exposure to radiation in the electromagnetic spectrum.

19. The composition according to any one of Claims 1-14, for use in the manufacture of articles having porous substrates and/or substrates with gaps greater than about 0.5 mils therebetween.